

Experts now estimate that one-half to three-quarters of a million infants are born each year who have been exposed to one or more illicit drugs in utero. When the legal drugs—alcohol and tobacco—are added, the figure rises to considerably more than one million substance exposed infants.

Although prenatal drug exposure has captured a great deal of public attention, prenatal exposure to alcohol is more widespread and has perhaps an even more serious impact. The National Institute on Drug Abuse estimates that 60 percent of women of childbearing age consume alcoholic beverages despite the fact that alcohol consumption during pregnancy is implicated in a wide range of birth defects and developmental disabilities, including mental retardation, physical abnormalities, and visual and auditory impairments.

Estimates of the Extent of Prenatal Exposure to Alcohol and Other Drugs

Prevalence estimates vary. One study estimates that 11 percent of all newborns, more than 459,690 children born each year, have been exposed to illicit drugs. Another study estimates that more than 739,000 women each year use one or more illegal substances during a pregnancy.

The dramatic increase in the popularity of cocaine (and especially crack) during the late 1980s prompted much of the contemporary concern with prenatal drug exposure. Estimates of the percentage of children born prenatally exposed to cocaine (including crack) each year range from 1 to 4.5 percent. Using these rates, it is estimated that women give birth to between 41,790 and 188,055 children each year who were exposed to cocaine.

Despite the growing use of cocaine, marijuana remains the most widely used illicit drug. Rates of newborns prenatally exposed to marijuana have been estimated at levels from 3 to almost 20 percent, which

would indicate that every year women give birth to between 125,370 and 835,800 children prenatally exposed to marijuana.

Prenatal exposure to alcohol far exceeds that of illicit drugs. One study estimates that women give birth to more than 2.6 million infants exposed to alcohol each year. Fetal Alcohol Syndrome (FAS) annually affects between 1.3 and 2.2 children per 1,000 live births in North America. Researchers estimate that cases of Alcohol-Related Birth Defects (ARBD) exceed those of FAS by a ratio of 2:1 to 3:1. This would indicate that women in the U.S. annually give birth to between 16,548 and 22,064 children exhibiting the effects of prenatal exposure to alcohol.

Other evidence also indicates that the number of children born exposed to alcohol and other drugs is high.

- 4.5 million (7.7 percent) of the women of childbearing age in the U.S. have used an illicit drug in the past month, including 601,000 cocaine users and 3.3 million who have used marijuana. Many more are heavy drinkers.
- Childbearing-age women comprise the majority of women who use drugs.
- Women who use illicit drugs other than marijuana have a premarital pregnancy rate twice that of those who do not.
- The majority of women entering drug treatment programs have children.

Research on a woman's consumption of alcohol and other drugs, once she knows she is pregnant, is inconclusive. Factors such as substance, age, socioeconomic status, and the presence of prenatal care may all affect consumption. Researchers found that, while the overall rate of women who drink during pregnancy declined during the mid-1980s, the rate among less-educated women or those under the age of 25 remained the same.





Effects of Prenatal Exposure to Alcohol

Research implicates alcohol in a wide range of perinatal effects including:

- an increased risk of spontaneous abortion and stillbirth
- shorter gestation periods
- reduced birth size and weight

Researchers normally divide the long-term effects of prenatal exposure to alcohol into two categories: (1) Fetal Alcohol Syndrome (FAS) and (2) Alcohol-Related Birth Defects (ARBD, sometimes called Fetal Alcohol Effects or FAE).

Fetal Alcohol Syndrome (FAS)

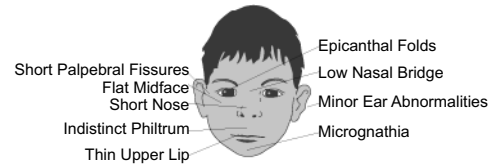
In 1973, K.L. Jones, D.W. Smith, and their colleagues realized that a substantial number of children affected by prenatal exposure to alcohol exhibited a characteristic set of facial abnormalities, growth deficiencies, and psychomotor disorders. They labelled this characteristic covariance Fetal Alcohol Syndrome (FAS). Since that time, researchers have developed a number of competing diagnostic definitions for FAS. The Fetal Alcohol Study Group of the Research Society on Alcoholism requires the presence of signs in each of three categories:

- prenatal and/or postnatal growth retardation (weight, length, and/or head circumference below the tenth percentile corrected for gestational age)
- central nervous system involvement (indications of neurological abnormality, developmental delay, or intellectual impairment)
- facial abnormalities (with at least two of the following signs: head circumference below the third percentile; narrow eye slits; flat and long upper lip; underdeveloped midface; and flattened nose bridge)

The FAS facial features described above create a characteristic look that has been described by other researchers as well. While these facial anomalies appear less pronounced over time, deficits and impairments in the other categories do not. Victims of FAS never catch up in size or cognitive ability to their nonaffected peers.

Discriminating Features

Associated Features



Other physical abnormalities associated with FAS include cardiovascular problems, cardiac murmurs, kidney troubles, respiratory dysfunction, hernias, shortened fingers, and profusion of facial hair. Delayed motor development also characterizes many children with FAS and, in many cases, motor development never normalizes. Physical abnormalities related to FAS can affect linguistic and cognitive development. Abnormal palates and other oral structures can cause articulation difficulties. A significant proportion of children with FAS have impaired vision and/or hearing, which can affect learning ability.

Central Nervous System (CNS) disorders related to FAS include acute sensitivity to sound, irritability, little body activity, attention problems, and jitteriness.

Cognitive impairments associated with FAS include deficits in the ability to use and comprehend language and process and store information. Researchers found that children with FAS had IQ scores ranging from normal to severely mentally retarded, with a mean score of 65. These scores do not appear to improve over time. FAS may surpass Down syndrome and spina bifida as a leading cause of mental retardation.

Research shows that FAS results from chronic maternal drinking (although not all women who drink heavily during their pregnancy produce children with FAS). The effects of limited social drinking by pregnant women remain a subject of controversy.





Alcohol-Related Birth Defects (ARBD) /Fetal Alcohol Effects (FAE)

Researchers have estimated that, among the children prenatally exposed to alcohol, the number suffering potentially severe developmental effects without diagnostic signs of FAS is twice the number of those with FAS indicators. These effects include alcohol-related physical features (alcohol dysmorphia), growth retardation, and various cognitive deficits and may represent the effects of lower levels of alcohol consumption by the mother, different usage patterns, the influence of confounding factors, and/or genetic differences in susceptibility.

Failure to take account of FAE underestimates the dangers of alcohol use for pregnant women and their children. Researchers found that prenatal exposure to alcohol affected fine and gross motor performance at four years of age. The same research team discovered that social and binge drinking "predicts a pattern of neurobehavioral deficit that includes attention and memory deficits . . . a variety of 'process' variables reflecting poor integration and quality of responses; behavior patterns involving distractibility and poor organization; and an inflexible approach to problem solving. This research also revealed that consumption of an average of two drinks a day by pregnant women was related to a seven-point decrease in IQ at age seven. However, they noted that environmental factors were associated with outcomes and "these patterns should not be interpreted as biologic thresholds."

Reference

Educational Implications of Prenatal Exposure to Drugs, RISK AND REALITY: THE IMPLICATIONS OF PRENATAL EXPOSURE TO ALCOHOL AND OTHER DRUGS, Joanne P. Brady, Marc Posner, Cynthia Lang and Michael J. Rosati, The Education Development Center, Inc. 1994. U.S. Department of Health and Human Services (DHHS) and the U.S. Department of Education (ED). Original Source: <http://aspe.hhs.gov/hsp/cyp/drugkids.htm>

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For more information, contact:

Alcohol and Drug Information Clearinghouse
Nebraska Council to Prevent Alcohol and Drug Abuse
<http://www.necouncil.org> | nebraskacouncil@navix.net
650 J Street, Suite 215, Lincoln, NE 68508
402-474-0930

-or-

Community Health Plaza
7101 Newport, Suite 202, Omaha, NE 68152
402-572-3075

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NEBRASKA RESOURCE DIRECTORY

Community Resources and Family Support Groups

Trudy House, Parent
514 E 9th Street, Hastings, Nebraska 68901
402-463-7175 thouse@inebraska.com

Diagnosis of FAS/E and ARND

UNMC - Munroe-Meyer Institute for Genetics and Rehabilitation
985450 NBC, Omaha, NE 68198-5450 | 402-559-6400; Fax: 402-559-5737
Bruce Buehler, M.D. Ann Olney, M.D. bbuehler@unmc.edu

University of Nebraska Medical Center - Department of Genetics
985430 NMC, Omaha, NE 68198-5430 | 402-449-6800; Fax: 402-559-6688
G. Bradley Schaeffer, M.D. gbschaeffer@unmc.edu
The Department runs genetics clinics for screening and diagnosis at several sites around Nebraska.

Pediatric and Medical Genetics Services-Michael Schmidt, M.D., Ph.D.
7111 A Street, Suite 100, Lincoln, NE 68510
402-484-5437; Fax: 402-484-5438

Creighton University Medical School - Department of Psychiatry
3528 Dodge, Omaha, NE 68108 | 402-345-8828; Fax: 402-345-8815
Shashi Bhatia, M.D.

Other Resources

Fetal Alcohol Syndrome Education Program
4009 6th Ave Ste 18, Kearney, NE 68845 | 308-234-2754; Fax 308-237-2146
We provide educational programs on Fetal Alcohol Syndrome aimed at prevention in a 22 county wide area. Other services available please contact for more information.

Nebraska Advocacy Services, Inc.
522 Lincoln Center Building, 215, Lincoln, NE 68508
402-474-3183; Toll free (NE): 800-422-6691; Fax: 402-474-3274
nas@navix.net
Protection and advocacy agency for persons with developmental disabilities.

Prevention Programs, Including Treatment for Women

Nebraska Teratogen Information Service
985440 Nebraska Medical Center, Omaha, NE 688198-5440 | 402-559-5071
Information on teratogens for patients and health professionals in the Midwest.

Nebraska Department of Health - Perinatal and Child Health Program
301 Centennial Mall S, P O Box 95044, Lincoln, NE 68509
402-471-2907; Fax: 402-471-7049 <http://www.hhs.state.ne.us/>
Judy Schliffe, R.N., Administrator
Coordinates prevention services and children's primary health care in Nebraska.

Treatment Services for Affected Individuals

St. Monica's Home - Mother and Child Project
4600 Valley Road, Suite 250, Lincoln, NE 68510
402-441-3768; Fax: 402-441-3770 stmonica@navix.net
Residential treatment program for substance abusing pregnant and/or parenting women.

Intertribal Treatment Program - Nebraska Urban Indian Health Coalition, Inc.
2301 S 15th Street, Omaha, NE 68108 | 402-346-0902; Fax: 402-342-5290
Charles Brewer, Director
45-day inpatient chemical dependency treatment. Patients must be Indians from Nebraska, Iowa, North Dakota or South Dakota. Pregnant patients are accepted but there are no beds for infants or young children.

Drug Dependency Unit (part of the Indian Health Service in Nebraska)
P O Box 754, Winnebago, NE 68071 | 402-878-2874; Fax: 402-878-2429
Robert Hallowell, Director
Hospital-based treatment program for American Indians (women or men) from Nebraska, Iowa, Montana and South Dakota. Pregnant patients are welcome. Mothers with young children are able to house them through local social agencies.

Brett Kuhn, Ph.D., Pediatric Psychologist
444 S 44th Street, or 985450 NMC, Omaha, NE 68198-5450
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Practice is at the Monroe-Meyer Institute.

